

CLAIMS

1. A seven-speed transmission comprising:
 - an input shaft;
 - an output shaft;
 - a planetary gear arrangement having first, second and third
 - 5 planetary gear sets, each planetary gear set having a ring gear member, sun gear member and planet carrier assembly member;
 - said input shaft being continuously interconnected with said sun gear member of the second planetary gear set, said output shaft being continuously interconnected with said planet carrier assembly member of the
 - 10 third planetary gear set;
 - a first interconnecting member continuously connecting said ring gear member of said first planetary gear set with said planet carrier assembly member of said third planetary gear set;
 - a second interconnecting member continuously connecting said
 - 15 planet carrier assembly member of said first planetary gear set with said ring gear member of said second planetary gear set;
 - a third interconnecting member continuously connecting said planet carrier assembly member of said second planetary gear set with said ring gear member of said third planetary gear set;
 - 20 a first brake selectively interconnecting a transmission housing with said planet carrier assembly member of the first planetary gear set;
 - a second brake selectively interconnecting said transmission housing with said sun gear member of the first planetary gear set;
 - a third brake selectively interconnecting said transmission housing
 - 25 with said sun gear member of the third planetary gear set;
 - a first clutch selectively interconnecting said sun gear member of the first planetary gear set with said sun gear member of the second planetary gear set;

a second clutch selectively interconnecting said planet carrier
30 assembly member of the first planetary gear set with said sun gear member
of the second planetary gear set;

a third clutch selectively interconnecting said sun gear member of
the second planetary gear set with said sun gear member of the third
planetary gear set; and

35 said first, second and third brakes, and first, second and third
clutches being engaged in combinations of two to establish seven forward
speed ratios and a reverse speed ratio between said input shaft and said
output shaft.

2. The seven-speed transmission of claim 1, wherein said first,
second and third planetary gear sets are simple planetary gear sets.

3. The seven-speed transmission of claim 1, wherein said third
clutch is positioned radially inward from said third brake.

4. The seven-speed transmission of claim 1, wherein ratio steps
for sequential shift changes between first and seventh speeds are each
between approximately 1.1 and 1.7.

5. The seven-speed transmission of claim 1, wherein a seventh of
said seven forward speed ratios is an overdrive ratio.

6. A seven-speed transmission comprising:

an input shaft;

an output shaft;

a planetary gear arrangement having first, second and third
5 planetary gear sets, each planetary gear set having a ring gear member, sun
gear member and planet carrier assembly member;

said input shaft being continuously interconnected with said sun gear member of the second planetary gear set, said output shaft being continuously interconnected with said planet carrier assembly member of the
10 third planetary gear set;

a first interconnecting member continuously connecting said ring gear member of said first planetary gear set with said planet carrier assembly member of said third planetary gear set;

a second interconnecting member continuously connecting said
15 planet carrier assembly member of said first planetary gear set with said ring gear member of said second planetary gear set;

a third interconnecting member continuously connecting said planet carrier assembly member of said second planetary gear set with said ring gear member of said third planetary gear set;

20 a first brake selectively interconnecting a transmission housing with said planet carrier assembly member of the first planetary gear set;

a second brake selectively interconnecting said transmission housing with said sun gear member of the first planetary gear set;

a third brake selectively interconnecting said transmission housing
25 with said sun gear member of the third planetary gear set;

a first clutch selectively interconnecting said sun gear member of the first planetary gear set with said sun gear member of the second planetary gear set;

a second clutch selectively interconnecting said planet carrier
30 assembly member of the first planetary gear set with said sun gear member of the second planetary gear set;

a third clutch selectively interconnecting said sun gear member of the second planetary gear set with said sun gear member of the third planetary gear set;

35 said first, second and third brakes, and first, second and third clutches being engaged in combinations of two to establish seven forward

speed ratios and a reverse speed ratio between said input shaft and said output shaft;

wherein said third clutch is positioned radially inward from said
40 third brake; and

wherein ratio steps for sequential shift changes between first and seventh speeds are each between approximately 1.1 and 1.7.